

CLAIMS

1. A channel switching valve comprising: a valve casing (10, 24, 25), a valve body (16), and valve body activating means 5 (22, 23a, 23b), being characterized in that the valve casing includes:

a fluid supply port (24b) for supplying fluid into the valve casing;

10 a first drain port (15) for draining fluid having a temperature out of a predetermined temperature range, which is supplied into the valve casing through the fluid supply port;

a second drain port (14) for draining fluid having a temperature in the predetermined temperature range, which is supplied into the valve casing through the fluid supply port;

15 a first channel (11) connecting the fluid supply port to the first drain port;

a second channel (11) connecting the fluid supply port to the second drain port;

20 a first valve hole (33a) provided in the middle of the first channel;

a second valve hole (33b) provided in the middle of the second channel;

a first valve seat (24a) provided corresponding to the first valve hole; and

25 a second valve seat (25a) provided corresponding to the second valve hole,

wherein the valve body moves between a first position in which the valve body contacts the first valve seat to close the first valve hole and a second position in which the valve 30 body contacts the second valve seat to close the second valve hole,

wherein the valve body activating means allows the valve body to be placed in the first position or the second position based on the temperature of the fluid,

wherein a part of the first channel and a part of the second channel are common, and

wherein the channel switching valve further includes lock means (28, 31) for forcefully moving the valve body to the
5 first position and holding the valve body in the first position.

2. The channel switching valve according to claim 1, characterized in that the valve body has a first end face
10 (19a) and a second end face (19b), the first end face is seated on the first valve seat when the valve body is located in the first position, and the second end face is seated on the second valve seat when the valve body is located in the second position, and the valve body is placed in the first and
15 second channels.

3. The channel switching valve according to claim 1 or 2, characterized in that the valve body activating means includes a first temperature sensitive element (23a) biasing the valve body toward the first position, and a second temperature sensitive element (23b) and a bias spring (22) biasing the valve body toward the second position, and biasing forces of the first temperature sensitive element and the second temperature sensitive element individually change depending on
20 the temperature of the fluid and biasing force of the bias spring is independent of the temperature of the fluid, and if the temperature of the fluid is in the predetermined temperature range, the biasing force of the first temperature sensitive element is larger than the sum of the biasing force of the bias spring and the biasing force of the second temperature sensitive element, while if the temperature of the fluid is out of the predetermined temperature range, the biasing force of the first temperature sensitive element is smaller than the sum of the biasing force of the bias spring
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and the biasing force of the second temperature sensitive element.

4. The channel switching valve according to any one of
5 claims 1 to 3, characterized in that the lock means includes a handle, and every time a user operates the handle, the valve body switches between a locked state in which the valve body is held in the first position and an unlocked state in which the holding of the valve body in the first position is
10 released.

5. The channel switching valve according to any one of claims 1 to 4, characterized in that the first temperature sensitive element and the second temperature sensitive element
15 are made of shape memory alloy and reversibly transform depending on the temperature of the fluid.

6. The channel switching valve according to any one of claims 1 to 4, characterized in that the first temperature
20 sensitive element and the second temperature sensitive element are wax thermoelements.

7. A shower system comprising: a channel switching valve according to any one of claims 1 to 6, a hose (6) and a shower head (2), characterized in that the shower head (2) is
25 connected to a first drain port of the channel switching valve through the hose.

8. A channel switching valve comprising: a body (10) in
30 which a channel is formed through which fluid passes, a discharge hole (14) which is opened in the body to supply the fluid to a subsequent element (2), a drain hole (15) which is opened in the body to drain the fluid if the temperature of the fluid is out of a predetermined temperature range, a valve
35 body (16) which is accommodated in the channel and opens or

closes either a part (33a) of the channel connecting to the discharge hole or a part (33b) of the channel connecting to the drain hole, a first temperature sensitive element (23a) which is accommodated in the channel so as to bias the valve
5 body in a predetermined direction, and a bias spring (22) and a second temperature sensitive element (23b) which are accommodated in the channel so as to bias the valve body in a direction opposite to the predetermined direction,
characterized in that biasing forces of the first temperature
10 sensitive element and the second temperature sensitive element individually change depending on the temperature of the fluid, and if the temperature of the fluid is out of the predetermined temperature range, the valve body moves to allow the fluid to be drained from the drain hole due to the sum of
15 the biasing force of the bias spring and the biasing force of the second temperature sensitive element being larger than the biasing force of the first temperature sensitive element, and a handle (31) for forcefully moving the valve body in the channel, is connected to the valve body and by operating the
20 handle, the valve body is moved to close the part of the channel connecting to the drain hole.